

## **REMARKS/ARGUMENTS**

The present Amendment is responsive to the non-final Office Action mailed January 9, 2007, in the above-identified application.

Claims 1-8 are the claims currently pending in the present application.

Claims 1-6 and 8 are amended to clarify features recited thereby.

Applicant thanks the Examiner for acknowledging the claim for foreign priority and the receipt of the priority document.

### ***Information Disclosure Statement***

The Office Action objects to the Information Disclosure Statement filed March 17, 2005 on the ground that it allegedly fails to comply with 37 CFR § 1.98(a)(2), which requires a legible copy of each cited foreign patent document.

The above-identified IDS cited documents in an International Search Report and these documents have been provided to the USPTO.

These references (JP 11-344390 and UK 2148447), along with the International Search Report that cited them, are resubmitted herewith, along with a Form PTO 1449 listing the same for the convenience of the Examiner. Accordingly, the Examiner is respectfully requested now to review and consider each of the references cited in the above-noted IDS.

### ***Rejection of Claims 1 and 5 under 35 U.S.C. § 103***

Claims 1 and 5 are rejected under 35 U.S.C. § 103 as being obvious from applicant's admitted prior art in view of Daaland et al., U.S. Patent No. 6,240,160 and Japanese Patent 09-225023. Reconsideration of this rejection is respectfully requested.

Claim 1 requires monitoring the integrity of the tensile armor plies of the flexible pipe in the end-fitting by detecting a change in a twist in the flexible pipe adjacent the end-fitting. Further, claim 5 requires a monitoring device operable for detecting a failure of the armor plies as a result of a fracture of two or more tensile armor wires inside the end-fitting, the monitoring device detecting the failure by detecting an increase in a twist in the pipe adjacent the end-fitting.

Daaland discloses a system of inspecting pipelines using radiation, such as x-ray radiation, to detect and measure displacements in polymer layers or the like between steel layers in the pipeline (Daaland, Abstract and column 1, lines 41-47). Daaland discloses that an x-ray radiation source is positioned on one side of a pipeline or a wall of the pipeline and a detector device or a photographic film adapted to receive radiation is positioned on the opposite of the pipeline wall or the pipeline and that the materials that are being inspected have differing radiation absorption indicators (Daaland, column 1, lines 48-61).

First, Daaland does not disclose or suggest detecting a change in a twist in the flexible pipe adjacent the end-fitting, as recited by claim 1 nor does it disclose or suggest detecting an increase in a twist in the flexible pipe adjacent the end-fitting, as recited by claim 5. Further, Daaland does not disclose or suggest monitoring the integrity of the tensile armor plies of the flexible pipe in the end-fitting, or detecting a failure of the armor plies as a result of a fracture of two or more tensile armor wires inside the end-fitting (per claim 5), by such a detecting of a change (or increase) in a twist in the flexible pipe adjacent the end-fitting as further recited by claims 1 and 5.

According to an aspect of applicant's invention as claimed in claims 1 and 5, since a twist in a flexible pipe adjacent a terminal end-fitting is a phenomenon associated with a failure (or a disorganization) of the armor plies as the result of a fracture of one or more armor wires of the plies inside the end-fitting, by monitoring such a change (or increase) in a twist in the flexible pipe adjacent the end-fitting, the tensile armor plies' integrity can be monitored. Such monitoring adjacent the end-fitting may be significantly easier than checking for fractures inside the end-fitting. Daaland and the other cited art do not disclose or suggest such features.

Further, the recitations of claims 1 and 5 would not have been obvious based on Daaland, since Daaland is drawn to solving a different technical problem. Daaland discloses monitoring a polymer pressure sheath displacement in pipelines with reference to the sealing ring. Daaland discloses that in certain conditions, the pressure sheath shows a tendency to contract during use and may thus be drawn away from the sealing ring of the end-fitting, making the end-fitting leaky (Daaland, column 1, lines 35-38). The end-fitting degradation mechanisms associated with the displacement of the polymer sheath and inspecting such displacement is quite unrelated to the

problem of monitoring a fracture of tensile armor wires in armor plies. Accordingly, the recitations of claims 1 and 5 would not have been obvious to a person of ordinary skill in the art based on Daaland. Based on Daaland, as apparently considered by the Examiner, a person of ordinary skill may have added markers within the tensile armor plies inside the end-fitting and used x-rays to monitor the displacements of these markers. However, as the tensile armor plies are immobilized by a resin within the end-fitting (see applicant's disclosure, page 3, line 25 – page 4, line 2), fractures of the tensile armor wires inside the end-fittings may occur without any significant twisting of the tensile armor plies inside the end-fitting, thus making this approach not practical and not leading to the solutions recited by claims 1 and 5, which require detecting twisting of the flexible pipe.

Moreover, it is respectfully submitted that Daaland would not have provided the suggestion or motivation for the proposed combination to a person of ordinary skill in the art. Japanese Patent 09-225023 is directed to a balloon catheter for a patient with a serious calcified part of a blood vessel (JP 09-225023, Abstract). Thus, JP 09-225023 is in a non-analogous art because it is in the medical field and therefore a person of ordinary skill in the art would not have understood its relevance to Daaland or to the present application. Further, JP 09-225023 does not disclose or suggest detecting a twist in the flexible pipe near the end-fitting.

Accordingly, the Examiner is respectfully requested to reconsider the application, allow the claims as amended and pass this case to issue.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on April 9, 2007:

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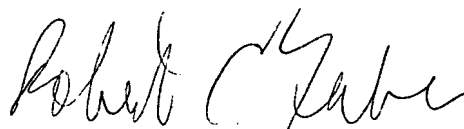


Signature

April 9, 2007

Date of Signature

Respectfully submitted,



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